## REMARKS

Claims 49-96 remain in this application. Claims 1-48 have been canceled. Claims 49-96 have been added.

Initially, the Applicants would like to express their gratitude toward the Examiner for taking the time to discuss the present application by way of a telephone interview on March 18, 2004, prior to this submission. The amendments herein reflect the subject matter discussed by telephone with the Examiner and are believed to place the present claims in condition for allowance.

Before responding to the Examiner's rejections in view of the prior art, a brief description of the present application is provided. The present invention is directed to an entertainment head end (such as a cable head end). Head end is a term of art which describes a facility (physical plant) which is the terminating point for the cable content distributor. In particular, a cable head end might be the point at which the signal distribution grid for a neighborhood connects with a cable content distributor's internal systems. As such, all content and IP signaling for all households in that neighborhood must emanate from, or return to, the head end. The connection between the head end and the individual household is often referred to as the "Last Mile" in the nationwide content distribution and communication infrastructure.

A cable head end infrastructure can be further described as a digital head end infrastructure (as opposed to an analog or a one-way cable head end infrastructure). A couple of characteristics of digital infrastructure are that: (1) there are up to ten times as many communication paths or transmission channels available in the same bandwidth as for analog; and (2) the bidirectional aspect manifests as two channels reserved for IP type signaling, one downstream from head end to household, and one upstream from household to head end. Embodiments of the present invention are used in the digital head end infrastructure and further depend on the integration of both the IP signaling

capability and the digital broadcast reception capability into a single set top box of an end client.

To understand the particular problem in the above-described environment addressed by the present invention, consider the "pay per view" problem. In this case, the head end owner (e.g., a cable content distributor) desires to broadcast a content only to those who have previously paid to watch that content at that time, but wishes to prevent the non-paying households from viewing the content on the shared signaling infrastructure. According to current art, this is accomplished by "scrambling" (in the analog world) or "encrypting" (in the digital world), and providing the paying viewers with the necessary hardware, software, and decryption/descrambling keys. There are certain inherent difficulties and drawbacks to this approach. By contrast, the present invention leverages the extreme multi-channel character of digital broadcast, and the availability of integrated IP connectivity, to provide an alternative approach to this problem.

Rather than encrypting the content to be broadcast, the invention leaves the content "clear" or without encryption. Specifically, the invention reserves multiple communication paths (or transmission channels) for the broadcast (either in advance, or dynamically as needed). Moments before the start of transmission of a part of the content, the set top boxes of paid viewers are notified by secure IP transmission of the initial channel on which the content will be broadcast. Software in a set top box automatically tunes one of the receivers to that channel, and connects the output to the TV display. Some time interval later (said interval to be random and varied), the set top box is notified, again via secure IP transmission, of a second channel and a frame number. The set top box causes the second receiver to tune to this channel and, upon receiving the designated frame number, switches the TV display to the output of the second receiver. This sequence is continued for the duration of the content. Thus, it is possible to seamlessly switch the content connection from channel to channel at random intervals with no impact on the viewing experience of the paid viewer, but

having made it virtually impossible for the unauthorized viewer to capture more than the occasional fragment of the content. To view the entire content, a non-authorized viewer would have to perform the impractical task of intercepting and decrypting each and every IP control message in the sequence in real time.

Claims 1-48 presently stand rejected under 35 U.S.C. §102(e) as being anticipated by White (U.S. Patent No. 6,628,308). In order to expedite allowance, the rejected claims are being cancelled herein, without disclaimer and without prejudice. Accordingly, it is respectfully submitted that these rejections are now moot.

Claims 49-96 have been added to clarify certain features of the subject matter being claimed. The limitations in these new claims are not disclosed in or suggested by White.

Specifically, White is primarily directed to a traditional analog cable head end infrastructure. As mentioned, a further characteristic of the analog infrastructure is that all of the transmission channels are broadcasted – that is, they operate in one direction manner (from the head end to the household) and can be listened to by any household. The system in White utilizes a separate telephone modem-based Internet connection for IP signaling from the household to the head end. White's system is primarily concerned with the case in which one or more channels are not used for broadcast audio/video content, but are rather used to broadcast HTML content.

In addition, White discloses that a viewer channel may be transmitted one day on a first transmission channel and another day on a second transmission channel. Data indicating the assignment of transmission channel-to-viewer channel may then be provided to identify which transmission channel the viewer channel is transmitted on so that a viewer can select the proper transmission channel for viewing the viewer channel. Conventionally, a transmission channel-to-viewer channel may be changed due to the fact that certain transmission channel may be more prestigious than others and, as a viewer channel changes in prestige, the transmission channel may change with the corresponding change in the prestige of the viewer channel. The known art in the

matter on channel switching is to notify (i.e., broadcast) all set top boxes of the channel switching notification, and then enforces the notification on all the set top boxes. The transmission channel of the notification is not secured and the transmitted notification is not encrypted because it should be shared by all connected viewers. There is no motivation provided in the known art for transferring the notification information in a private (i.e., secure) manner to a subset of the viewers.

By contrast, the present invention's channel switching is controlled by the server, and communicated to a selected client via a secure IP connection (or via an encrypted notification). The selected client then (e.g., via its decoder) automatically decrypts the notification and performs the channel switching based on the communication (e.g., the notification) from the server. The viewer is not aware that his/her client or set top is actually switching channels every few seconds; he/she experiences a continuous stream of audio/video presentation.

More specifically, White does not disclose or suggest a cable system for controlling access to a content that: 1) securely transfers mapping information for a content transmitted on one or more communication paths to a plurality of clients; 2) transfers the mapping information from a server via a dedicated IP channel; 3) signals a subset of viewers with modified mapping information on a repeated basis during a course of a viewed presentation; 4) signals such changes at irregular and/or semi-random intervals that determined dynamically (not prearranged) in order to thwart attempts to either anticipate the interval sequence, or illegally acquire a prearranged sequence, on the part of would-be unauthorized viewers; 5) selects a next transmission channel in the interval sequence dynamically and in a random fashion to further thwart the unauthorized viewers; 6) augments the channel mapping information with multiplexing information (e.g., frame numbers) to allow for transparent switching of the transmission channel; and/or 7) switches the transmission channel automatically, without interfering with the continuity of the presentation, and without the knowledge of the viewer.

Lastly, if White and/or any other references made of record are still maintained by the Examiner in reference to the newly added claims, the Applicants respectfully reserve the right to and/or request allowance to investigate, and possibly overcome White, as well as any other references made of record, by affidavits or declarations under 37 C.F.R. §§ 1.131 or 1.132 or by any other means.

In view of the foregoing, the Applicants respectfully submit that Claims 49-96 are in condition for allowance. Reconsideration and withdrawal of the rejections is respectfully requested, and a timely Notice of Allowability is solicited. To the extent it would be helpful to placing this application in condition for allowance, the Applicants encourage the Examiner to contact the undersigned counsel and conduct a telephonic interview.

To the extent necessary, Applicants petition the Commissioner for a one-month extension of time, extending to April 19, 2004, the period for response to the Office Action dated December 19, 2003. The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-0639.

Respectfully submitted,

Date: April 16, 2004

Brian M. Berliner
Attorney for Applicants
Registration No. 34,549

**O'MELVENY & MYERS LLP**
400 South Hope Street
Los Angeles, CA 90071-2899
Telephone: (213) 430-6000